WHAT IS CLAIMED IS:

1. A material processing system, comprising:

an anaerobic stripping reactor for converting an organic material into a bio-softened slurry;

a thermobaric cracking chamber and an expansion/settling tank for converting the bio-softened slurry into a plurality of products; and

a hydrocarbon separation system for separating the plurality of products, wherein the chamber can be heated to a temperature of from 350 to 600° F and can be pressurized to a pressure of from 400 to 1,200 psig.

2. The material processing system of claim 1, wherein the thermobaric cracking chamber is coupled to a pressure intensifier, the pressure intensifier enabling control of the pressure in the thermobaric cracking chamber.

3. The material processing system of claim 1, wherein the thermobaric cracking chamber includes an outlet release valve configured for opening at a high speed.

4. The material processing system of claim 1, wherein the anaerobic stripping reactor softens the organic material.

5. The material processing system of claim 1, wherein the anaerobic stripping reactor is configured to isolate a main portion of the organic material from reactive shocks.

6. The material processing system of claim 5, wherein the anaerobic stripping reactor includes a meta-stable area for housing a main portion of the organic material and a first buffer zone into the meta-stable area and a second buffer zone out of the meta-stable area.

7. The material processing system of claim 1, wherein the anaerobic stripping reactor includes a first compartment, a second compartment, and a third compartment, the first compartment receiving the organic material and conveying the organic material to the

second compartment, the second compartment being the main compartment where conversion of organic material into bio-softened slurry takes place, and the third compartment receiving the bio-softened slurry from the second compartment and conveying a portion of the bio-softened slurry back to the first chamber and conveying a majority of the bio-softened slurry to the thermobaric cracking chamber.

8. The material processing system of claim 7, wherein the first compartment is a new bio-slurry area and functions as a buffer zone into the second compartment, the second compartment is a meta-stable area, and the third compartment is a batch ready area and functions as a buffer zone out of the second compartment and further serves as a bio-feed seeding agent for the first compartment.

9. The material processing system of claim 7, wherein the second compartment houses a large population of active bacteria, the bacteria reacting with the organic material to produce one or more burnable gases.

10. The material processing system of claim 1, wherein the anaerobic stripping reactor houses bioactive anaerobic bacteria, the bacteria reacting with the organic material to produce one or more burnable gases.

11. The material processing system of claim 10, wherein the anaerobic stripping reactor uses a bio-sulfuric stripping process to preprocess the organic material into a slurry and produce the burnable gases through active bacterial breakdown of the slurry.

12. The material processing system of claim 10, wherein the anaerobic stripping reactor is coupled to a pump, the pump extracting the one or more burnable gases from the anaerobic stripping reactor.

13. The material processing system of claim 12, wherein the one or more burnable gases extracted by the pump are used to power a process of the material processing system.

14. The material processing system of claim 12, wherein the pump is coupled to a heating system that heats the chamber, and the heating system receives and consumes the one or more burnable gases.

15. The material processing system of claim 14, wherein the thermobaric chamber is coupled to a pressure intensifier or multi-stage high pressure air compressor, enabling control of the pressure in the thermobaric chamber.

16. The material processing system of claim 15, wherein a pressure intensifier is used to regulate thermobaric chamber pressures.

17. The material processing system of claim 12, wherein the pump is coupled to a sulfur removing device for removing sulfur from the one or more burnable gases.

18. The material processing system of claim 17, wherein the sulfur removing device is an iron sponge.

19. The material processing system of claim 17, wherein the one or more burnable gases include methane.

20. The material processing system of claim 1, wherein the hydrocarbon separation system uses a hydrocarbon monomer separation process to separate the plurality of products.

21. The material processing system of claim 1, further including an interfusion system for selectively combining the plurality of products into a fuel product.

22. The material processing system of claim 21, wherein the interfusion system uses a hydrocarbon distribution, interfusion and storage process to selectively combine the plurality of products into a fuel product.

23. The material processing system of claim 22, wherein the organic material comprises a biomass, and the fuel product is a diesel fuel.

24. The material processing system of claim 23, wherein the biomass includes proteins, starches, cellulose, or fats, or derivatives thereof.

25. The material processing system of claim 1, further including a systems process controller for determining adjustments to the organic material or to the pressure or temperature of the chamber or to dwell time to produce a desired end product.

26. The material processing system of claim 25, wherein the system controller is capable of optimizing produced product ranges on a batch by batch basis to fit distilled fuel production curves.

27. The material processing system of claim 1, wherein the material processing system is configured for providing fuel to an electric generator.

28. A material processing system, comprising:

an anaerobic stripping reactor for converting an organic material into a bio-softened feedstock slurry;

a chamber for converting the slurry into a plurality of products; and

a hydrocarbon separation system for separating the plurality of products, wherein the anaerobic stripping reactor includes a first compartment, a second compartment, and a third compartment, the first compartment receiving the organic material and conveying the organic material to the second compartment, the second compartment being the main compartment where conversion of the organic material into bio-softened slurry takes place, and the third compartment receiving the bio-softened slurry from the second compartment and conveying the slurry to the chamber.

29. The material processing system of claim 28, wherein the first compartment is a new bio-slurry area and functions as a buffer zone into the second compartment, the second

compartment is a meta-stable area, and the third compartment is a batch ready area and functions as a buffer zone out of the second compartment, the buffer zones into and out of the second compartment isolating a main portion of the organic material from reactive shocks.

30. The material processing system of claim 28, wherein the second compartment houses active bacteria which react with the organic material or the bio-softened slurry to produce one or more burnable gases.

31. The material processing system of claim 30, wherein the anaerobic stripping reactor is coupled to a pump, the pump extracting the one or more burnable gases from the anaerobic stripping reactor.

32. The material processing system of claim 31, wherein the one or more burnable gases extracted by the pump are used to power a process of the material processing system.

33. The material processing system of claim 31, wherein the pump is coupled to a heating system that heats the chamber, and the heating system receives and consumes the one or more burnable gases.

34. The material processing system of claim 31, wherein the chamber is coupled to a pressure intensifier, the pressure intensifier being configured to control pressure in the chamber after a temperature set-point is reached.

35. The material processing system of claim 28, wherein the anaerobic stripping reactor softens the organic material.

36. The material processing system of claim 28, wherein the chamber can be heated to a temperature of from 350 to 600° F and can be pressurized to a pressure of from 400 to 1,200 psig.

37. A process for breaking down macromolecular bonds within an organic material, comprising:

converting the organic material into a bio-softened slurry in an anaerobic stripping reactor;

converting the bio-softened slurry into a plurality of products in a thermobaric cracking chamber which can be heated to a temperature of from 350 to 600° F and can be pressurized to a pressure of from 400 to 1,200 psig, the bio-softened slurry being housed in the thermobaric cracking chamber for a dwell time of from 20 to 60 minutes; and

releasing the bio-softened slurry into an expansion/separation tank.

38. The process of claim 37, wherein the thermobaric cracking chamber is coupled to a pressure intensifier to control the pressure in the chamber after a temperature set-point has been reached.

39. The process of claim 37, wherein the step of converting the organic material into a bio-softened slurry in an anaerobic stripping reactor softens the organic material.

40. The process of claim 37, wherein the anaerobic reactor is configured to isolate a main portion of the organic material from reactive shocks during the step of converting the organic material into a bio-softened slurry.

41. The process of claim 40, wherein the anaerobic stripping reactor includes a meta-stable area for housing a main portion of the organic material and a first buffer zone into the meta-stable area and a second buffer zone out of the meta-stable area.

42. The process of claim 37, wherein the anaerobic stripping reactor includes a first compartment, a second compartment, and a third compartment, the first compartment receiving the organic material, preconditioning the organic material and conveying the organic material to the second compartment, the second compartment being the main compartment where conversion of organic material into bio-softened slurry takes place,

and the third compartment receiving the bio-softened slurry from the second compartment and conveying the bio-softened slurry to the thermobaric cracking chamber.

43. The process of claim 42, wherein a portion of the bio-softened slurry from the third compartment is conveyed to the first compartment to seed organic material entering the first compartment.

44. The process of claim 42, wherein the first compartment is a new bio-slurry area and functions as a buffer zone into the second compartment, the second compartment is a meta-stable area, and the third compartment is a batch ready area and functions as a buffer zone out of the second compartment.

45. The process of claim 44, wherein the third compartment further functions as a source for bio-active seeding feedback to the first compartment.

46. The process of claim 42, wherein the second compartment houses a majority of active bacteria which react with the organic material to produce one or more burnable gases.

47. The process of claim 42, wherein the third compartment provides sufficient bio-softened feedstock slurry to feed approximately one batch operation of the thermobaric cracking chamber.

48. The process of claim 37, wherein the anaerobic stripping reactor houses bioactive anaerobic bacteria, the bacteria reacting with the organic material to produce one or more burnable gases.

49. The process of claim 37, wherein the step of converting the organic material into a bio-softened slurry is performed using a bio-sulfuric stripping process that preprocesses the organic material into a slurry and produce burnable gases through active bacterial breakdown of the slurry.

50. The process of claim 49, further including the step of extracting the one or more burnable gases from the anaerobic stripping reactor.

51. The process of claim 50, wherein the anaerobic stripping reactor is coupled to a pump for extracting the one or more burnable gases from the anaerobic stripping reactor.

52. The process of claim 51, further including the step of using the one or more burnable gases extracted by the pump to power the thermobaric cracking chamber.

53. The process of claim 50, further including the step of removing sulfur from the one or more burnable gases.

54. The process of claim 53, wherein a scavenge pump is coupled to a sulfur removing device for removing the sulfur from the one or more burnable gases.

55. The process of claim 53, wherein the sulfur removing device is an iron sponge.

56. The process of claim 49, wherein the one or more burnable gases include methane.

57. The process of claim 37, further including the step of separating the plurality of products.

58. The process of claim 57, wherein the step of separating the plurality of products is done using a hydrocarbon separation process.

59. The process of claim 57, further including the step of selectively combining the plurality of products into a fuel product.

60. The process of claim 37, further including the step of selectively combining the plurality of products into a fuel product.

61. The process of claim 60, wherein the step of selectively combining the plurality of products is done using a hydrocarbon distribution, interfusion and storage process.

62. The process of claim 37, further including the step of adjusting the organic material, the pressure or the temperature of the thermobaric cracking chamber to produce a desired end product.